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AMENDMENTS TO THE CLAIMS

- 1-5. (cancelled)
6. (previously presented) A process in accordance with claim 19, characterized by addition of IR turbidity-promoting agents.
7. (previously presented) A process in accordance with claim 19, characterized by addition of fibers.
8. (previously presented) A process in accordance with claim 19, wherein the lyogel obtained in step a) is aged before it is washed in step c).
9. (previously presented) A process in accordance with claim 19 wherein the lyogel in step c) is washed until the water content of the lyogel is ≤ 5 wt%.
10. (previously presented) A process in accordance with claim 19 wherein the organic solvent in step c) comprises aliphatic or aromatic hydrocarbon.
11. (previously presented) A process in accordance with claim 19 wherein the surface-silylating agent in step d) comprises symmetrical disiloxane.
12. (previously presented) A process in accordance with claim 19 wherein all the residues R in the disiloxane are identical.

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13. (previously presented) A process in accordance with claim 19 wherein the surface-silylating agent in step d) is hexamethyldisiloxane.
14. (previously presented) A process in accordance with claim 19 wherein the surface-silylating in step d) is carried out in a solvent.
15. (previously presented) A process in accordance with claim 19 wherein the surface-silylating in step d) is carried out in the presence of a catalyst.
16. (previously presented) A process in accordance with claim 19 wherein the surface-silylating in step d) is carried out in the presence of catalytic quantities of trimethylchlorosilane.
17. (previously presented) A process in accordance with claim 19 wherein, prior to step e), the surface-silylated lyogel is washed with a protic or aprotic solvent.
18. (previously presented) A process in accordance with claim 19 wherein step e) comprises subcritically drying the surface-silylated lyogel.
19. (previously presented) A process for the preparation of organically modified aerogels with permanently hydrophobic surface groups, comprising;
- a. introducing a lyogel into a reactor;
 - b. washing the lyogel introduced into the reactor in step a) essentially free of water with an organic solvent;
 - c. surface-silylating the lyogel obtained in step b) with a surface-silylating agent to produce a surface-silylated lyogel; and
 - d. drying the surface-silylated lyogel obtained in step c) to obtain an aerogel,

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wherein the surface-silylating agent in step c) comprises a disiloxane of formula I



wherein the residues R, independently of one another, identically or differently, signify in each case a hydrogen atom or a nonreactive organic residue that is linear, branched, cyclic, saturated or unsaturated, or aromatic or heteroaromatic, and wherein, prior to step c), the lyogel is washed with a solution of an orthosilicate capable of bringing about condensation, of formula $R^1_{4-n}Si-(OR^2)_n$ wherein $n = 2$ through 4 and R^1 and R^2 , independently of one another, are hydrogen atoms, linear or branched C_1 - C_4 alkyl residues, cyclohexyl residues or phenyl residues.

20. (previously presented) A process in accordance with claim 19 wherein an inorganic acid is used to bring the aqueous water glass solution to a pH value of ≤ 3 , and the lyogel is washed essentially free from electrolytes with water.

21. (previously presented) A process in accordance with claim 10, wherein the organic solvent in step c) is selected from aliphatic alcohols, ethers, esters, and ketones.

22. (previously presented) A process in accordance with claim 15, wherein the catalyst comprises an acid.

23. (previously presented) A process in accordance with claim 19 wherein the orthosilicate is selected from alkyl orthosilicate and aryl orthosilicate.

24. (previously presented) A process in accordance with claim 19, wherein, prior to step d), the lyogel is washed with aqueous silicic acid solution.

25-41. (cancelled)